REMARKS

Claims 1, 3-17, 19-34, 36-39, 41, 42, 44, 46-55, 57-60, 62-70, 72, 73, 75-82, 85-87, 89-90, 92 and 94-101 are pending in this application. Applicants respectfully request reconsideration and continued examination of this application in view of the following remarks.

1. Status of the Claims

Claims 1, 17, 33, 38, 60, 73, and 86 have been amended to further define the claimed subject matter as requiring a beverage or beverage concentrate consisting essentially of water, a calcium source, one or more edible acids, artificial sweetener and optionally, caffeine, caramel, coloring agents or dyes, antifoam, emulsifiers, tea solids, juices, cloud component, and mineral and non-mineral nutritional supplements. Support for the amendments can be found in the specification as published, for example, in paragraphs 0034, 0036, 0037, 0056 and 0058 and in original claim 35, among others. No new matter has been added.

As a result of the above amendments, claims 35, 43, 45, 56, 71, 84, 91, 93 and 102 have been canceled; claims 44, 46, 92 and 94 have been amended to change their dependency; and claims 34, 36, 37, 49, 51, 64 and 97 have been amended to add "the."

Claims 1, 22, 23, 25-28 and 46 were amended to correct minor informal errors.

2. Prior Art Rejections

Claims 1, 3-17, 19-34, 36-39, 41, 42, 44, 46-55, 57-60, 62-70, 72, 73, 75-82, 85-87, 89-90, 92 and 94-101 were rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 5,851,578 to Gandhi (Gandhi) in view of U.S. Patent Publication No. 2002/0102331 to Yang et al. ("Yang"), U.S. Patent No. 4,830,862 to Braun ("Braun"), and U.S. Patent No. 5,401,524 to Burkes et al. ("Burkes").

3. **Neither Gandhi, Yang, Braun, or Burkes, alone or in combination, teach or suggest a beverage or beverage concentrate comprising calcium chloride, monocalcium phosphate, and at least one of calcium hydroxide and calcium carbonate**

Claims 1, 17, 33, 38, 60, 73, and 86 recite that the beverage and beverage concentrate comprise a calcium source comprising calcium chloride, monocalcium phosphate, and at least one of calcium hydroxide and calcium carbonate. None of Gandhi, Braun, or Burkes, alone or in combination, teach or suggest a beverage or beverage concentrate comprising calcium chloride, monocalcium phosphate, and at least one of calcium hydroxide and calcium carbonate.

First, Gandhi does not teach or suggest a beverage or beverage concentrate comprising a calcium source comprising calcium chloride, monocalcium phosphate, and at least one of calcium hydroxide and calcium carbonate. Instead, Gandhi teaches a beverage containing non-gel forming soluble fiber and a soluble salt of calcium and other mineral supplements along with a pharmaceutically active compound. The disclosed calcium source for the beverage of Gandhi is calcium lactate because, according to Gandhi, calcium lactate is the most soluble salt of calcium and has a good taste profile. *See* Gandhi, col. 4, lines 7-10. The calcium lactate may be formed *in situ* by the combination of lactic acid and calcium carbonate.

Accordingly, Gandhi does not provide any teaching as to a beverage or beverage concentrate comprising a calcium source comprising calcium chloride, monocalcium phosphate, and at least one of calcium hydroxide and calcium carbonate. Moreover, Gandhi actually teaches away from the use of calcium carbonate because of its alleged poor solubility and gas formation during dissolution in alkaline intestinal medium and teaches away from the use of calcium phosphates because of their alleged poor water solubility and insignificant solubility in basic or neutral conditions. *See* Gandhi, col. 3, lines 45-65.

In addition, Yang does not teach or suggest a beverage or beverage concentrate comprising a calcium source comprising calcium chloride, monocalcium phosphate, and at least one of calcium hydroxide and calcium carbonate. Yang teaches away from the

invention. It teaches that calcium chloride and some calcium phosphates produce unacceptable off tastes. ¶ 0007

Further, although Yang discloses a multitude of possible sources of calcium in Yang (such as calcium hydroxide, calcium oxide, calcium carbonate, calcium citrate, calcium malate, calcium gluconate, calcium lactate, calcium acetate, calcium succinate, calcium fumarate, calcium pyruvate, calcium ascorbate, calcium sulfate, calcium chloride, calcium phosphates, and a multitude of mixed organic acid salts), Yang provides no teaching for selecting the particular combination of calcium chloride, monocalcium phosphate, and one of calcium hydroxide and calcium carbonate from the hundreds of possible combinations of calcium sources disclosed by Yang. *See* ¶ 163-64. Thus, Yang has no teaching which would lead one to form a beverage composition or beverage concentrate composition comprising a calcium source comprising calcium chloride, monocalcium phosphate, and one of calcium hydroxide and calcium carbonate.

Braun also does not teach or suggest a beverage or beverage concentrate comprising a calcium source comprising calcium chloride, monocalcium phosphate, and at least one of calcium hydroxide and calcium carbonate. In contrast, Braun teaches the use of calcium sulfate, preferably in combination with calcium chloride, to improve the solubility of other calcium sources (mainly calcium hydroxide and calcium carbonate) in the presence of significant amounts of edible acids, such as phosphoric and citric acids.

More particularly, Braun recites that mixtures of calcium sulfate and calcium carbonate (or calcium hydroxide), which optionally and preferably include calcium chloride and/or calcium gluconate are particularly preferred calcium sources. *See* p. 5 of Braun, lines 3-12. The calcium sulfate-calcium chloride combination of Braun, for example, allegedly reduces precipitation and deposition of calcium salts on equipment surfaces during pasteurization. *See* Abstract of Braun. Therefore, Braun's teaching of using calcium sulfate in combination with another calcium source does not teach or suggest a calcium source comprising calcium chloride, monocalcium phosphate, and at least one of calcium hydroxide and calcium carbonate.

Further, although Braun discloses a multitude of possible sources of calcium in Braun (such as calcium carbonate, calcium sulfate, calcium chloride, calcium phosphate, calcium hydrogen phosphate, calcium dihydrogen phosphate, calcium hydroxide, as well as the respective sour salts of calcium, e.g. calcium citrate, calcium malate, calcium gluconate or calcium lactate), Braun provides no teaching for selecting the particular combination of calcium chloride, monocalcium phosphate, and one of calcium hydroxide and calcium carbonate from the hundreds of possible combinations of calcium sources disclosed by Braun. *See* p. 5 of Braun, lines 3-12. Moreover, Braun particularly teaches the use of calcium sulfate in combination with another calcium source as discussed previously. Thus, Braun has no teaching which would lead one to form a beverage composition or beverage concentrate composition comprising a calcium source comprising calcium chloride, monocalcium phosphate, and one of calcium hydroxide and calcium carbonate.

The claimed unique and particular combination of calcium sources of the present invention has been found by the present invention to provide the unexpected result of imparting a cleaner taste that is closer to an unfortified drink as compared to a blend of calcium hydroxide and calcium chloride alone or calcium carbonate and calcium chloride alone. *See* Specification, pp. 15-16.

Burkes further does not remedy the deficiencies of Gandhi, Yang and Braun. Burkes is directed to storage-stable, calcium-fortified pre-mixes for beverage concentrate production. Burkes provides that suitable calcium sources include calcium carbonate, calcium oxide, calcium hydroxide, calcium chloride, calcium phosphate, calcium hydrogen phosphate and calcium dihydrogen phosphate, as well as the respective organic salts of calcium, e.g. calcium citrate, calcium malate, calcium tartrate, or calcium lactate. According to Burkes, mixtures of calcium carbonate, calcium hydroxide, calcium chloride, calcium sulfate, and calcium nitrate are preferred calcium sources, and calcium carbonate, calcium hydroxide, and mixtures thereof are most preferred. *See* Burkes, col. 14, lines 16-20. Thus, Burkes, as in Gandhi and Braun, also has no particular teaching which would lead one to form a beverage composition or beverage concentrate composition comprising a calcium source

comprising calcium chloride, monocalcium phosphate, and at least one of calcium hydroxide and calcium carbonate as claimed.

In view of the above, claims 1, 3-17, 19-39, 41-60, 62-73, 75-82, 84-87 and 89-102 are patentable over Gandhi, Yang, Braun, and Burkes because none of the references, alone or in combination, teach or suggest a beverage concentrate or beverage system comprising a calcium source comprising calcium chloride, monocalcium phosphate, and at least one of calcium hydroxide and calcium carbonate.

4. Neither Gandhi, Braun, Burkes, nor Yang alone or in combination, teach or suggest stabilizing a solution or a stable solution consisting essentially of calcium, edible acids, artificial sweetener, and certain optional ingredients.

Claims 1, 17, 33, 38, 60, 73, and 86 recite that the beverage and beverage concentrate consist essentially of water, the calcium source, the one or more edible acids, the artificial sweetener and optionally, caffeine, caramel, carbonation, coloring agents or dyes, antifoam, emulsifiers, one or more flavoring compositions, one or more preservatives, tea solids, juices, cloud component, and mineral and non-mineral nutritional supplements.

Gandhi discloses a calcium supplemented beverage containing soluble fiber. Gandhi's beverage contains, among other things, partially hydrolyzed vegetable gum for fiber, 5 to 50% of mono or disaccharide, 0.01 to 5% of synthetic or natural intense sweeteners, and calcium lactate. Col. 3, lns. 27 – 32; col. 4, lns. 7-8. The partially hydrolyzed vegetable gum is generally a partially hydrolyzed large polysaccharide. Col. 5, lns. 18 – 21. Braun teaches that stabilizers like sugars, such as sucrose, glucose, fructose, high fructose corn syrup and invert sugar, and polysaccharides stabilize calcium in solution. Col. 11, lns. 59-65. Thus, the claims exclude the use of material quantities of calcium stabilizers such as natural sweeteners and gum. Thus, Gandhi does not disclose, teach or suggest a stable calcium-supplemented beverage consisting essentially of water, the calcium source, the one or more edible acids, the artificial sweetener and optionally, caffeine, caramel, carbonation, coloring agents or dyes, antifoam, emulsifiers, one or more flavoring compositions, one or more preservatives,

tea solids, juices, cloud component, and mineral and non-mineral nutritional supplements.

Similarly, Burkes does not disclose, teach, or suggest the claimed invention. Burkes discloses a beverage concentrate containing, among other things, from about 5% to about 70% sugar on a dry weight basis. Abstract. Thus, Burke does not disclose, teach or suggest a stable calcium-supplemented beverage consisting essentially of water, a calcium source, one or more edible acids, artificial sweetener and optionally, caffeine, caramel, carbonation, coloring agents or dyes, antifoam, emulsifiers, one or more flavoring compositions, one or more preservatives, tea solids, juices, cloud component, and mineral and non-mineral nutritional supplements.

Braun also does not suggest the claimed invention. It discloses that diet beverages containing noncaloric sweeteners can be supplemented with calcium. Col. 9, Ins. 61-62. However, it states that appropriate modification is necessary for diet beverages versus non-diet beverages. Col. 14, Ins. 17-19. Presumably, the modification includes the use of a premix stabilizer to keep the calcium salts in solution. Col. 11, 52-55. The premix stabilizer includes sugars and polysaccharides. Material quantities of both sugar and polysaccharides are excluded from the claimed invention. Thus, Braun does not teach disclose, teach or suggest a stable calcium-supplemented beverage optionally, caffeine, caramel, carbonation, coloring agents or dyes, antifoam, emulsifiers, one or more flavoring compositions, one or more preservatives, tea solids, juices, cloud component, and mineral and non-mineral nutritional supplements.

Moreover Yang does not suggest the claimed invention. Yang describes a calcium-fortified water and milk products. It teaches against the use of artificial sweeteners, ¶ 0007, and none of the examples use artificial sweeteners although it states that "sweeteners" can be used in its invention. ¶ 0049.

Even if Yang is viewed as suggesting the use of artificial sweeteners, it does not disclose, teach or suggest critical aspects of the claimed invention. First, Yang does not recognize that prior art artificially sweetened diet cola beverages and concentrates were not stable and palatable as Applicant recognized in paragraph 7 of Applicant's published application. Moreover, Yang does not recognize the criticality of dissolving

and stabilizing the calcium before adding the artificial sweetener as Applicant describes in paragraph 26 of Applicant's published application. Without fully dissolving and stabilizing the calcium before adding the artificial sweetener, Applicant states in paragraph 24 "the resulting solution will not be sweet, and the calcium salts may not fully dissolve into solution." Yang has simply no teachings on how to make a calcium supplemented beverage containing artificial sweeteners. Thus, Yang does not disclose, teach or suggest a stable calcium-supplemented beverage consisting essentially of water, a calcium source, one or more edible acids, artificial sweetener and optionally, caffeine, caramel, coloring agents or dyes, antifoam, emulsifiers, tea solids, juices, cloud component, and mineral and non-mineral nutritional supplements.

Alone, neither Gandhi, Braun, Burkes, nor Yang teach or suggest the claimed stable beverages and their method of making. In addition, the combination of the cited references does not remedy the deficiencies of the individual references. The use of stabilizers used in Gandhi, Braun, and Burkes is excluded from the claimed invention. Neither Gandhi, Braun, Burkes, nor Yang teach how to stabilize a calcium supplemented beverage containing artificial sweetener without stabilizers. None of them teach the criticality of fully dissolving and stabilizing the calcium before adding the artificial sweetener.

In view of the above, claims 1, 3-17, 19-34, 36-39, 41, 42, 44, 46-55, 57-60, 62-70, 72, 73, 75-82, 85-87, 89-90, 92, and 94-101 are patentable over Gandhi, Yang, Braun, and Burkes because none of the references, alone or in combination, teach or suggest a beverage concentrate or beverage system consisting essentially of water, a calcium source, one or more edible acids, artificial sweetener and optionally, caffeine, caramel, coloring agents or dyes, antifoam, emulsifiers, tea solids, juices, cloud component, and mineral and non-mineral nutritional supplements.

CONCLUSION

In view of the foregoing, all of the rejections have been overcome and claims 1, 3-17, 19-34, 36-39, 41, 42, 44, 46-55, 57-60, 62-70, 72, 73, 75-82, 85-87, 89-90, 92, and 94-101 are allowable. An early indication of allowance is solicited.

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